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ABSTRACT

Using data from the Census Bureau's 1991 Current Population Survey and the National Household Education Survey, this study examined the trends in nursery school enrollment of 3- and 4-year-old children from 1975 to 1990. Factors examined included number of enrollments in nursery schools, race and ethnicity of the students, students' family income, and participation in center-based programs. Based on these data, the paper notes that over the past 15 years, overall nursery school enrollment among 3- and 4-year-olds has increased by 30 percent. Although much of this increase was driven by increases in the enrollment of children from white families and from families with moderate to high income levels, there has been a sharp increase in the enrollment rates of minority children and children from low income families over the preceding 3 years. (MDM)

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Trends in the Educational Experience of 3- to 4-year-old Children

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Introduction

In the United States, children have traditionally begun formal schooling at 5 or 6 years of age. Over the last several decades, however, a greater proportion of children have begun attending school at an earlier age—3 or 4 years old.[1] This increase in the school enrollment rates of younger children has been attributed to several factors, including changes in maternal employment patterns and shifts in the child-care arrangements of American families.[2] For example, as more women with children have entered the work force, there has been a growing need for child-care services. Furthermore, over the last decade, an increasing number of families with child-care needs have chosen to place their children in a formal educational setting rather than have them stay with a relative or other adult.

Moreover, while earlier studies have shown that rates of attendance have remained highest among the more affluent segments of society, there has been a growing awareness of the importance of early schooling to the educational performance of *disadvantaged* children. This has led to an expansion of programs to assist low-income families with placing their children in quality educational programs at an early age. The President's 1993 budget calls for fully funding Head Start, so that all eligible children can be served by this program. Furthermore, provisions in several new federal programs are designed to assist low- and moderate-income working families in placing their children in educational settings. These programs include the Social Services Block Grant, state grants for the Dependent Care Planning and Development Program, the Family Support Act of 1988, and the 1990 Child

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[1]A. Pendleton, "Preschool Enrollment: Trends and Implications," in *The Condition of Education: 1986* (U.S. Department of Education, National Center for Education Statistics, 1986).

[2]S. Hofferth, A. Brayfield, S. Deich, and P. Holcomb, *National Child Care Survey, 1990* (The Urban Institute, 1991).

Care and Development Block Grant.[3]

This paper uses data from the October Supplement to the Current Population Survey (CPS) to examine the trends in nursery school enrollment of 3- and 4-year-old children from 1975 through 1990. Survey data from the 1991 National Household Education Survey (NHES:91) early childhood component will be presented for comparison and to show the impact on participation rates when a broader view of children's enrollment in early education programs than that of the CPS is used.

Trends in Nursery School Enrollment 1975–1990

Each October, the CPS collects data that may be used to estimate the enrollment of 3- and 4-year-olds in nursery school. The CPS defines nursery school as a group or class that is organized to provide educational experiences during the years preceding kindergarten. This definition explicitly excludes forms of child care that do not have an educational component. Because a very small portion of 3- and 4-year-olds are enrolled in kindergarten (less than 4 percent), the reader should keep in mind that preprimary school enrollment rates of 3- and 4-year-olds are slightly higher than the nursery school enrollment rates presented here.[4]

Between 1975 and 1990, there was an increase in the percentages of 3- and 4-year-olds enrolled in nursery school (figure 1). In general, each October a larger proportion of children of this age group were enrolled. However, between 1987 and 1990, this trend accelerated. That is, during the 12-year period between 1975 and 1987, nursery enrollment

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[3]Ibid.

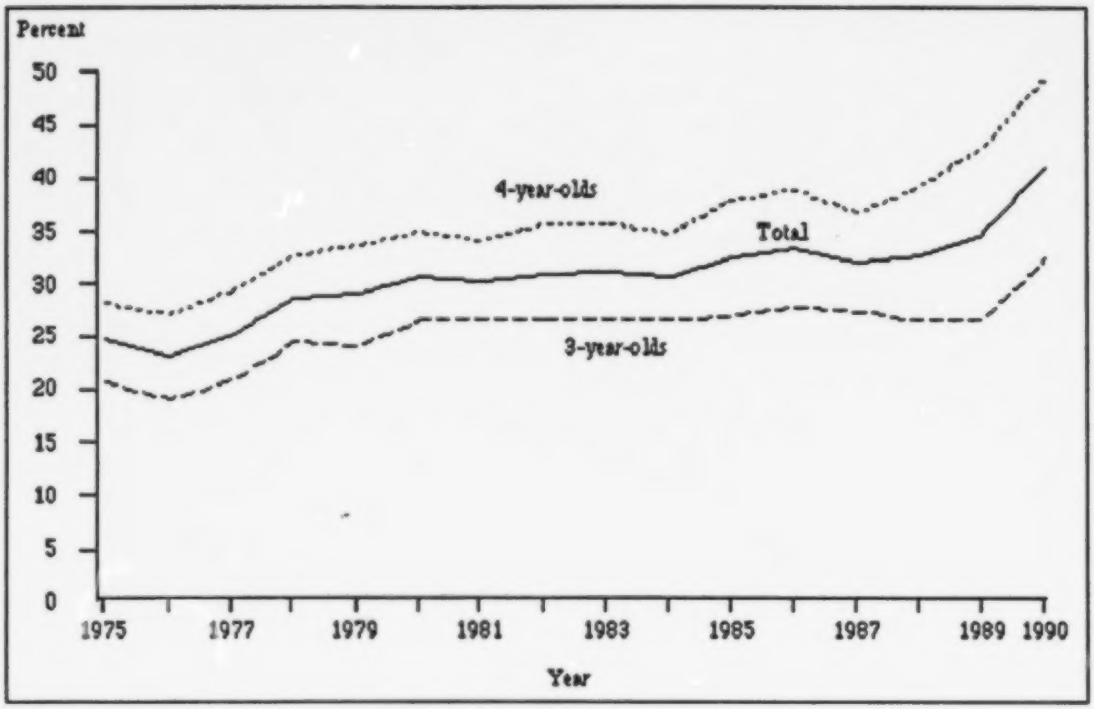
[4]Earlier published reports by the National Center for Education Statistics also examined trends in the enrollment of 3- and 4-year-olds. See A. Pendleton, *Preschool Enrollment: Trends and Implications*, 1986; and J. Crane, *Preprimary Enrollment, Fall 1983*, 1987. However, these reports examined all preschool or preprimary enrollment; i.e., they included both nursery school and kindergarten.

increased about 30 percent—from approximately 24 percent to 32 percent. In just the 3-year period between 1987 and 1990, enrollment increased by an additional 28 percent—from about 32 percent to 41 percent.[5]

The enrollment rates of both 3-year-olds and 4-year-olds showed this pattern. However, throughout the period, 4-year-olds enrolled at higher rates than did 3-year-olds. The increase in the enrollment of 4-year-olds between 1975 and 1990 was greater than the increase in the enrollment of 3-year-olds during this period. In the 15 years between 1975 and 1990, the enrollment of 4-year-olds increased about 77 percent, while the enrollment of 3-year-olds increased about 56 percent.

[5]It is unclear, however, whether this increase in the estimated enrollment rate is due to actual increases in enrollment or to an increase in the awareness of education as a component in nursery school. That is, to qualify as nursery school enrollment in the CPS, children must be enrolled in a pre-school program that has education as a major component. Over the last few years as early childhood education has been given more emphasis, parents may be evaluating their child's preschool experiences in a different manner than in the past. Actual enrollment may have remained constant, while the awareness of the importance of an educational component to preschool has increased.

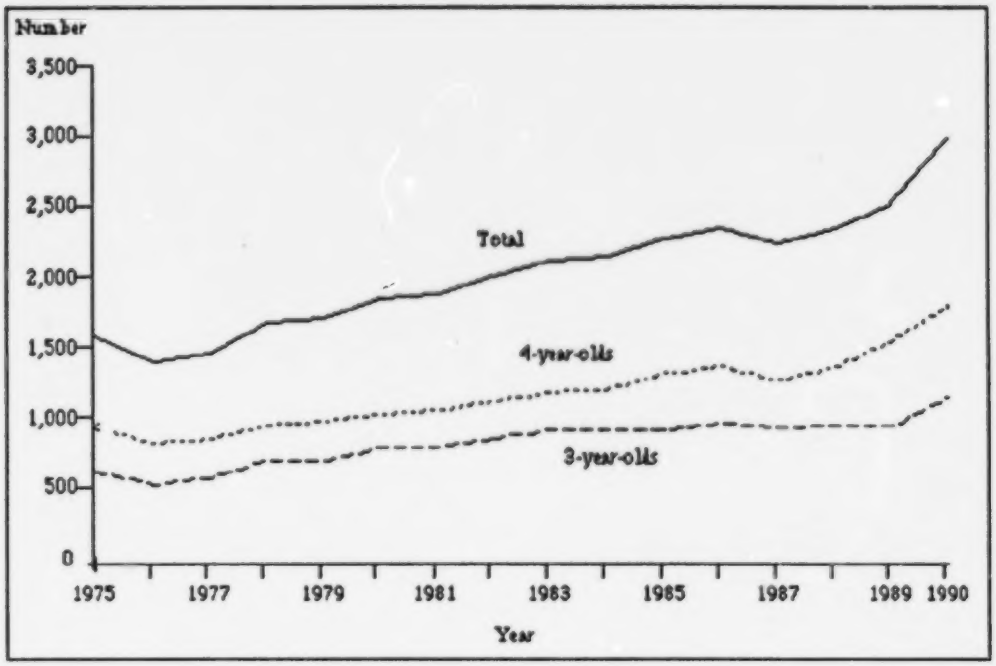
Figure 1— Percentage of 3- and 4-year-olds enrolled in nursery school by age: October 1975 through 1990



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1990.

Over the last 15 years, higher enrollment rates coupled with a general increase in the population of 3- and 4-year-olds resulted in an overall increase in the number of 3- and 4-year-olds enrolled in nursery school. Almost twice as many 3- and 4-year-olds were attending nursery school in 1990 as were attending in 1975 (figure 2). Approximately 3 million children were enrolled in 1990 compared with more than 1.6 million children in 1975.

Figure 2—Number of 3- and 4-year-olds enrolled in nursery school by age: October 1975 through 1990



SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1975 through 1990.

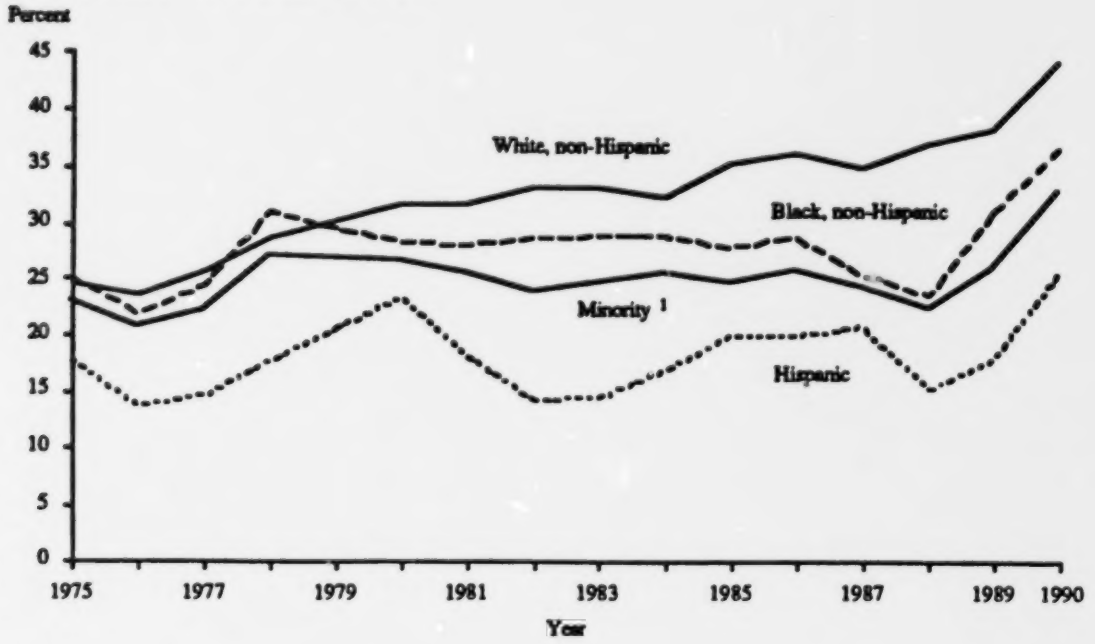
Race-Ethnicity

The increase in enrollment between 1975 and 1988 was driven, in part, by the growing proportion of white 3- and 4-year-olds enrolling in nursery school (figure 3).[6] The enrollment rates of white 3- and 4-year-olds increased by more than 48

[6]While the proportion of all 3- and 4-year-olds who were from minority backgrounds grew between 1975 and 1990, white children continued to make up the vast majority of the population of 3- and 4-year-olds. About 76 percent of 3- and 4-year olds were white in 1975, compared with about 70 percent in 1990. Therefore, to a large extent, the overall trend in the enrollment of 3- and 4-year-olds was driven by the enrollment rates of white children.

percent during this period—from around 25 percent in 1975 to 37 percent in 1988. The trend in enrollment for minority children, including black and Hispanic 3- and 4-year-olds, rose during the period 1975 through 1980 but appeared to be rather flat during the early to mid-1980s, and showed no apparent statistical trend.

Figure 3—Percentage of 3- and 4-year-olds enrolled in nursery school by race-ethnicity: October 1975 through 1990



[1] Includes black, Hispanic, and other non-white children.

SOURCE: U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1975 through 1990.

However, between 1988 and 1990, the enrollment rates for both white and

minority children rose sharply.[7] The rate for white 3- and 4-year-olds increased from 37 percent in 1988 to 44 percent 2 years later. The rate for minority children stood at 22 percent in 1988, but was at 33 percent by 1990.

Family Income

Over the past 15 years, preschool enrollment rates for children from high-income households have consistently been higher than the rates for children from moderate- and low-income households.[8] In each year from 1975 through 1990, between 40 and 50 percent of all 3- and 4-year-olds in high-income families were enrolled in nursery school, while less than 30 percent of low- and moderate-income children were enrolled (figure 4).

Furthermore, while enrollment rates for high-income children were greater than for moderate- or low-income children, the growth in total enrollments between 1975 and 1990 appears in a large part to be due to an increase in the enrollment rates of high and moderate-income children. The trend in the enrollment rates of low-income children appears to be relatively flat between 1975 and 1987, with an increase between 1987 and 1990.

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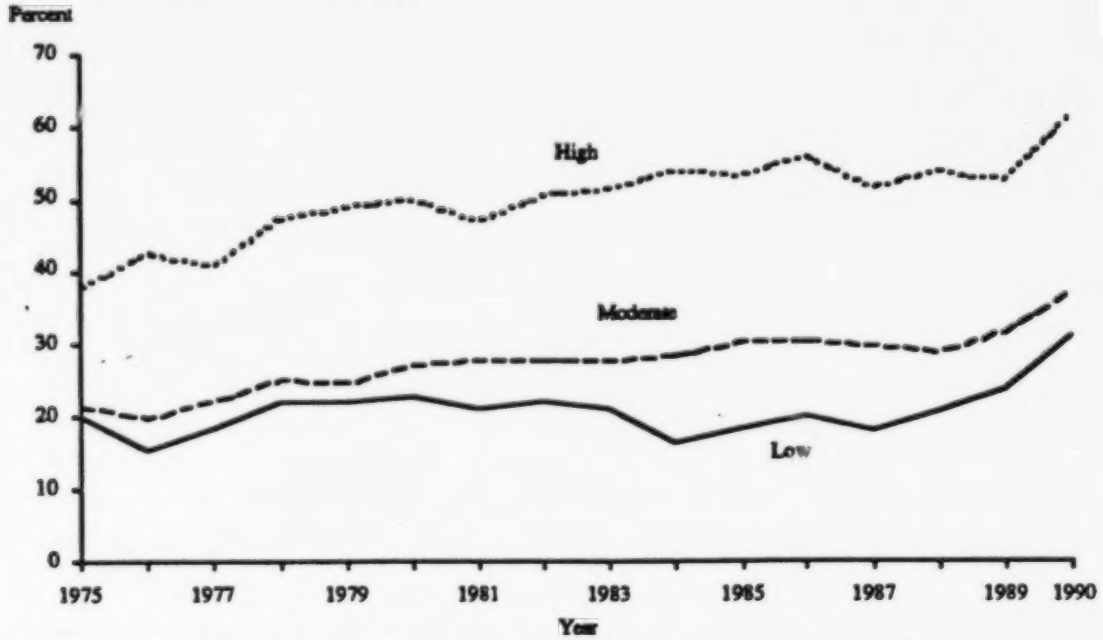
[7]It appears from figure 5 that the rate of increase for black and Hispanic enrollment between 1988 and 1990 is greater than that for whites. However, given there are only three data points between 1988 and 1990, and the standard errors for the black and Hispanic rates are relatively large, these differences are not statistically significant.

[8]High income families are defined as those families in the top 20 percent of yearly family income; low income families are those families in the bottom 20 percent of yearly family income; and moderate income families are those families with income between 20 and 80 percent of yearly family income. In 1990 the bottom 20 percent of families approximately earned less than $9,600, while the top 20 percent approximately earned over $46,000. See the technical appendix for more information on how these categories were created.

Figure 4—Percentage of 3- and 4-year-olds enrolled in nursery school by family income: October 1975 through 1990



NOTE: High income families are defined as those families in the top 20 percent of yearly family income; low income families are those families in the bottom 20 percent of yearly family income; and moderate income families are those families with income between 20 and 80 percent of yearly family income.

SOURCE: N. Alsalam and J. Corina. Special extract files prepared for the U. S. Department of Education, National Center for Education Statistics based on the U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1975 through 1990.

Participation in Center-based Programs

The CPS asks the parents of 3- and 4-year olds about their children's enrollment in school or nursery school only. Nursery schools are defined for CPS interviewers as a group or class that is organized to provide educational experiences for children during the year or years preceding kindergarten. Instruction is included as an important and integral phase of its program of child care. Some researchers have suggested that this is a too narrow definition of young children's organized

group experience. Parents of young children may enroll them in a variety of nonparental care and education programs. With the entry of mothers in the labor force and the early childhood educational developments of the 1960's and 1970's, child care and child development programs have been joined. Today's child care centers typically serve both purposes, and the difference between child care centers and nursery schools is often blurred (Hayes, Palmer, & Zaslow, 1990). Consequently, the merit of monitoring nursery school enrollments apart from the wider range of organized group experiences in which children may participate is being questioned.

Two recent studies sponsored by the U.S. Department of Education and the U.S. Department of Health and Human Services provide information on 3- and 4-year-olds participation in a broad range of programs and activities. Both NHES:91 and the National Child Care Survey of 1990 (NCCS) collected data on children's participation in a variety of child care arrangements and early childhood programs, including nursery school and daycare centers. In the next section, data from the NHES:91 are analyzed in order to illustrate the impact of this broader perspective on children's program participation rates.

NHES:91 Program Participation

NHES:91 was designed to collect information on children's experiences in a wide range of settings, including their homes, child care arrangements, early childhood education programs, and schools. Random digit dialing and computer-assisted telephone techniques were used to survey the parents of nearly 14,000 3- to 8-year-old children, including approximately 4,500 3- and 4-year-olds. In addition to demographic information, parents were asked about the various environments to which their children were exposed, the extent to which they participated in organized programs, and some of the characteristics of the programs in which the children spent time. The survey collected data for estimating the participation rates of children in

four basic types of child care arrangements/programs: 1) home-based child care by relatives, 2) home-based child care by nonrelatives, 3) attendance at daycare centers, and 4) attendance in nursery schools, prekindergarten, or Head Start programs. The collection of detailed information on center-based programs included the child/staff ratio, group size, and presence of an educational component.

Parents in NHES:91 were asked separately about their children's participation in each type of care/program activity. In addition, children's enrollment status in organized group settings such as nursery schools, prekindergartens, and Head Start programs is ascertained regardless of children's school enrollment.

Table 1 contains estimates of the percent of 3- and 4-year-old children who are enrolled in a daycare center program, a nursery school program (including prekindergarten or Head Start), or in both types of programs during the spring of 1991. About 51 percent of these children are enrolled in some type of center-based program with about 37 percent enrolled in a nursery school and 18 percent in a daycare center. Nursery school enrollments are higher among 4 year olds than among 3 year olds, while daycare center enrollments are roughly the same.

Table 1.— Percentage of 3- and 4-year-old children enrolled: 1991

Child's Age	NHES:91				CPS	
	Number of children in thousands	Nursery School*	Daycare Center	Center-based Program	Number of children in thousands	Nursery School
Total	7,528	36.7	18.3	50.9	7,450	34.2
3	3,765	27.0	18.8	42.4	3,753	26.8
4	3,763	46.4	17.8	59.4	3,697	41.6

* Includes Nursery school, prekindergarten, and Head Start.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1991; U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1991.

The NHES:91 estimates in Table 1 for nursery school compare favorably with the October 1991 estimates of nursery school enrollments from the CPS[9]. Most of the difference between the NHES:91 and the CPS nursery school figures seems to be in the 4-year-old figures.

The NHES:91 methodology identifies about 14 percent more 3- to 4-year-old children who are enrolled in an organized group program (Total center-based enrollment minus the nursery school enrollment) than does the CPS. This represents more than one million additional children.

As was noted above, the CPS intends to capture enrollment only in those programs that have an educational component. In NHES:91, parents whose children were enrolled in daycare centers and nursery school programs were asked whether or not the program had an educational program. Table 2 shows the impact on estimates of center-based enrollments when enrollment in programs that were identified by parents as not having an educational component is removed. When enrollment in these programs is removed, the estimated percent of both 3- and 4-year-old children enrolled in center-based programs is lowered by about 5 percent. Thus, even with this more restricted definition, the NHES:91 approach identifies about 9.5 percent more children as enrolled than the CPS.

[9] The NHES:91 estimates for center-based program enrollment are similar to those reported by NCCS: 1990; 41 percent of 3-year-olds and 54 percent of 4-year-olds enrolled in center-based programs.

Table 2.— Percentage of 3- and 4-year-old children enrolled in center-based programs with an educational component: 1991

Child's Age	NHES:91			CPS	
	Number of children in thousands	All center-based programs	Center-based program with an educational component	Number of children in thousands	Nursery School
Total	7,528	50.9	46.2	7,450	34.2
3	3,765	42.4	37.5	3,753	26.8
4	3,763	59.4	54.8	3,697	41.6

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES), spring 1991; U.S. Department of Commerce, Bureau of the Census, Current Population Survey, October 1991.

Summary and Discussion

Over the past 15 years there has been a large increase in the number and proportion of 3- and 4-year-olds enrolled in nursery school. Enrollment increased over 30 percent during this period. Even though, much of this increase seems to have been driven by increases in the enrollment of children from white families and from families with moderate to high levels of income, there has been a sharp increase in the enrollment rates of minority children and children from low income families over the last three years.

Albeit, caution should be used in interpreting the sharp increases in enrollment over the last few years. With the increased emphasis on early childhood education, this increase may merely reflect the heightened parental interest in education over just custodial care. Some experts speculate that many early childhood programs that were judged to be essentially custodial in years past may now be perceived by parents (or advertised by

providers) as educational.[10] Thus parents may perceive programs that were once classified as custodial as now being education related. The sharp increases over the last few years may merely reflect these changes in perception and not real increases in enrollment.

In addition to the above, the analysis may have several limitations including: 1) reporting of the simple or univariate association of these variables with the likelihood of a child attending nursery school, but has not examined the interrelationships between other variables and nursery school enrollment and 2) many of the variables presented in this report are correlated. For example, minority children are more likely to be from low-income families than are nonminority children. Unfortunately, the relatively small sample sizes of 3- and 4-year-olds in the Current Population Survey make n-way analyses difficult. In most instances, this report had to aggregate all non-white groups into one "minority" group, which may have masked interesting differences in the pattern of enrollment among black, Hispanic, and Asian children.

Children's experiences in the home and outside the home may play an important role in preparing them for school. It has been hypothesized that young children entering school for the first time are better able to benefit from school if they have had: 1) prior experiences away from their parents and 2) previous exposures to the kinds of ideas and topics likely to be found in a school setting. Nursery schools are just one of the many programs which provide organized settings with educational components. The programs that 3- and 4-year-olds participate in are not limited to nursery schools as shown by NHES:91 and NCCS:90. Limiting the data collection only to those children participating in nursery school presents a restricted picture of the of 3- and 4-year-olds experiences in educationally relevant settings.

The benefits of early childhood education have been recognized by nearly all participants in the educational reform debate—the issues surrounding preschool have changed. ". . . the debate [is] not *whether* we should serve young children and their

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[10]S. Hofferth, personal communication, March, 1992.

families; today we ask, *how* and *when*. (Kagan, 1989)"[11]. As the quantity of early childhood education has increased, quality has become much more of a concern. While CPS does not provide information on the quality of the programs, the NHES, in addition to children's participation in early childhood programs, includes the collection of the characteristics of those programs in its annual survey.

[11]Kagan, S. (October, 1989). Early Care and Education: Reflecting on Options and Opportunities, *Phi Delta Kappan.*